DOCUMENT RESUME

ED 272 406 SO 017 303

AUTHOR Parker, G. W.; Anderson, Dorothy
TITLE Comparing State Support of Higher Education.
PUB DATE 7 Apr 86
NOTE 22p.; Paper presented at the Annual Meeting of the Association of Private Enterprise Education (San Antonio, TX, April 7, 1986).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Educational Equity (Finance); Educational Finance; Expenditures; Financial Needs; Full State Funding; *Higher Education; Local Legislation; Private Financial Support; Private School Aid; School Funds; School Taxes; *State Aid; State Legislation; Tax Allocation; Tax Effort
IDENTIFIERS *Chronicle of Higher Education; State Issues; *State Taxes

ABSTRACT

Concentrating on states' needs for programs offered by institutions of higher education (IHE) and the manner in which these needs can be met and financed, the 3-part paper analyzes the elements included by "The Chronicle of Higher Education" in its ranking of states' suppoort of higher education based on the results of the Chambers Report and suggests the best single method to rank the states for comparative purposes. Part I provides an introduction to the topic. Part II discusses the ability to support higher education with attention to tax ability, base for comparison, capital outlay, tax and nontax income, public only versus public and private institutions, state only versus state and local support, and supplementary information. Part III compares and analyzes rankings and concludes, among other things, that it does make a difference in ranking when local government revenue for IHE is included along with state government revenue. A table and end notes are included. (TRS)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED272406

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

# COMPARING STATE SUPPORT OF HIGHER EDUCATION

Presented to

Association of Private Enterprise Education

April 7, 1986

By

G. W. Parker, Professor of Economics
Mississippi State University

and

Dorothy Anderson, Assistant Professor of Finance
University of Tennessee at Martin

SP017303

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

G. W. PARKER

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

# COMPARING STATE SUPPORT OF HIGHER EDUCATION

## I. INTRODUCTION

Many studies have concentrated on states' needs for programs offered by institutions of higher education (IHE), and the manner in which these needs can be met and financed. Until the mid-1970s the usual objective of these studies was to discover "soft spots" in the existing tax structure so that new taxes would be most readily accepted by taxpayers. This was brought to an end by the tax revolt period of 1978-1980 which saw 19 states enact tax or expenditure limitation legislation by 1984.[1] In addition, in June 1980 Congress voted to eliminate the states' portion of federal revenue sharing. With no countercyclical assistance from Washington the recession of 1981-1983 saw large tax increases at the state level to offset the recession-induced revenue losses.[2]

State support of IHE has followed this same rags to riches pattern of state tax collections, with the smallest increase in over 20 years from fiscal 1983 to 1984 and increasing thereafter.[3] Almost without exception, a state's search for the solution to the above problems leads to a key question: Where do we rate in comparison with other states? The interest of state officials, legislators, school administrators, and others is heightened by this concern with comparative performance.

Each fall the National Association of State Universities and Land Grand Colleges publishes the results of an annual survey by the late Professor M. M. Chambers, commonly called the Chambers Report. The Chambers Report provides timely and up-to-date information on appropriations of state tax funds for annual operating expenses to public and private universities and colleges across the country. For example, the

fiscal 1985-1986 data was published not far from the end of the first quarter of the fiscal year.[4] The appropriations data, in addition to direct support of public and private IHE, includes appropriations for state scholarships or other student financial aid. They do not include sums intended for capital expenditures or debt service. Nor do they include money from federal or local taxes and student fees. The sums, of necessity, do not include supplementary appropriations or other changes made later in the fiscal year. Professor Chambers writes, "The top priority is to make the data available in this timely publication, at the end of the first quarter of the fiscal year in most states."[5]

Each fall The Chronicle of Higher Education takes the results of Chambers Report and ranks the states according to total appropriations for higher education, appropriations per capita, and appropriations per $1,000 of state personal income. For example, the analysis for 1985-1986 shows that Mississippi (the poorest state in the nation on the basis of per capita personal income),[6] ranked 29th, eleventh, and third respectively.[7]

The purpose of this article is to (1) analyze the elements included by The Chronicle of Higher Education in its ranking of States' support of higher education and (2) suggest the best single method to rank the states for comparative purposes, the only reason for ranking in the first place.

## II. Ability to Support Higher Education

The concept of ability to support higher education is comparable to the concept of ability to tax. Because fiscal capacity and tax effort are prerequisites before public funds can support IHE, the ability to

tax becomes relevant to any study concerned with the ability to support institutions of higher education.

Tax Ability. The concept of the ability of the residents of one state to contribute to government in relation to the ability of another state can be divided into two parts: (1) fiscal capacity which is a measure of the ability of the state to raise tax revenue for financing governmental programs, and (2) tax effort which is the extent to which this capacity is used by the state to raise tax revenue.

The most commonly used measure of tax effort is taxes as a percent of personal income. The best argument for using this measure is that, in the long run, taxes are normally paid out of income and most analysts seem to agree that personal income is the best single measure of economic capacity. Another measure of tax effort that is often used is taxes per capita. While taxes per capita is better than comparing raw, unadjusted totals, it is basically a weak measure of tax effort. Indeed, it is a crude device for it implicitly assumes and gives a homogeneous value of one to each resident of the state, regardless of age, condition, or position in the economy.

Base for comparison. The definitions of capacity and effort, used in describing the ability of the various states to tax, are retained when considering the ability to support higher education. Thus the basic discussion of ability to tax is equally applicable to ability to support higher education.

"We find no evidence of a causal relationship running from real revenues to real expenditures," rather, "real expenditures cause real taxes."[8] The real world political system determines expenditures and then looks for revenue sources to finance those expenditures.

Therefore, it is assumed that any tax revenue used to support IHE is collected expressly for that purpose.

The weakness of measuring effort to tax on a per capita basis is equally applicable to the public support of higher education. The strong argument for measuring effort to tax as a percent of personal income is just as persuasive when applied to effort to support IHE. Because of its superiority as a measure of effort, this article concentrates on the latter.

Capital Outlay. Should capital outlay be included when making interstate comparisons? In financing capital outlay, if the primary goal is the maintenance of a debt-free status, capital outlay must be treated the same way as current income. A second way to treat capital outlay is to divide it into two classes, revenue and nonrevenue producing outlays. Revenue producing facilities are cafeterias, student housing, and other commercial type enterprises. These are self-liquidating and constitute no sacrifice by the taxpayer. Classrooms and laboratories produce no current income. This second method of financing capital outlay uses credit to finance the revenue-producing structures but requires the nonincome producing structures to be financed out of current income. A third approach is to use current income to meet current expenditures. Public credit is used to finance capital outlay with cost spread over its future beneficiaries. The first approach actually requires a prepayment for future costs of higher education. The third approach which spreads the load to include the present and future decades, involves bond issues.

The capricious nature of capital outlay can produce distorting effects if the presentation covers a single year. Averaging capital

outlay over several years is not a satisfactory solution either because, in many instances, it tends to approximate expenditures of previous years. From this it may be concluded that current funds alone give the most meaningful measure when making comparisons of interstate relative ability to finance higher education. The Chronicle of Higher Education analysis omits capital outlay.

One year versus several years. The Chronicle's study along with the great majority of studies that compare states' ability to finance IHE make the comparison over a one year period. Research reveals no advantage, generally, in extending the comparison to cover more than one academic year. Current funds for IHE are not usually capricious from year to year. Averaging the financial support of IHE over a period of years tends to obscure whatever trend might be present with no clear gain in validity.

Tax and nontax income. Interstate comparisons have been made in which all income (tax and nontax) has been used. The nontax income includes student fees and philanthropic contributions.

Do student fees represent effort that should be credited to the residents of the state in which the IHE is located? If student fees should be counted as effort, they should be credited to the residents of the home state of the student. The home state is the source of the funds to pay fees, regardless of where the student attends IHE. It is suggested, however, that student fees cannot be counted as effort within the meaning of the terms as defined in this report. Capacity and effort are measures with reference to public funds. What the individual voluntarily does with his own private funds does not come under this concept. Philanthropy cannot be considered as effort by the resident of

any particular state for the same reason that voluntary spending of private funds in the form of fees cannot be considered. The Chronicles's rankings omits nontax income for IHE.

Public versus public and private institutions. Generally speaking, the choice between including public only or public and private institutions depends upon the philosophy of the individual or state conducting the study. States that have a strong public higher education system in relation to private IHE tend to compare public IHE. States that have predominantly private institutions tend to compare all (public and private) IHE. The emphasis ranges from the position of Wyoming with no private IHE (100 percent of college enrollment is public) to that of New York, which has 210 private IHE, about two and one-half times the public IHE (only about 56 percent of college enrollment is public).[9] The attitude of public IHE oriented states is expressed by several rocky mountain and western states that contribute practically no state or local tax funds to private IHE within the state. At the other extreme is New York and Pennsylvania where the attitude is expressed in the form of aid to private IHE of over twelve and eleven percent respectively of all state and local government expenditures for IHE while the average for the U.S. is less than two percent.[10]

Any attempt to evaluate the merits of making interstate comparisons of support to public institutions as opposed to support to public and private IHE is merely a value judgment, subjective, and full of pitfalls. These elements, more than any other, influence and are influenced by other elements. In light of the discussion of other elements it seems reasonable, however, that public support should include state and local government grants to private IHE in states where this is allowed and

practiced, and all private support (tuition, fees, and philanthropy) should be excluded. The Chronicle's ranking includes direct and indirect support (scholarships and other programs) of private institutions.

State versus state and local support. Some studies include only state support of IHE while others include state and local support; certainly there are valid reasons for choosing each of these two methods. The Chambers Report includes state funds only; therefore The Chronicle of Higher Education ranks the states on the basis of state funds. The use of state funds only for measuring the various sources of income to IHE within a particular state is understandable in specific cases, but to carry this argument across state boundaries and use it when comparing various states' ability to support IHE is difficult to justify. It is conceded that, at the present time, higher education is the responsibility of the state. But is higher education any more a responsibility of the state than local government? The state is responsible for both. Every tax dollar spent on IHE by local government is one dollar not available for the state. For most purposes comparisons among states are totally meaningless and are indeed fraudulent if the basis for comparison is state appropriations alone.

It is estimated that state governments furnished 92 percent of state and local appropriations going to IHE for current funds revenues in the U.S. in 1984, up from 89 percent before the 1978-1980 (local property) tax revolt. While this may be true for the U.S. as a whole, the ratio from state to state does not cluster around this national estimate. In 1978 local support of IHE as a percent of state and local support ranged from zero (Maine and South Dakota) to more than 25 percent (California) among the states and, although the trend thereafter was lower, local support

still ranged as high as 21.63 percent (Oregon) in 1984.[11]

Many state studies compare a particular state with surrounding states. For example, suppose Oregon wants to compare its support of IHE with the other pacific coast states. In 1984, the percent of state and local appropriations going to higher education (current funds only) provided by local governments ranged from 1.02 percent in Washington to 21.63 percent in Oregon.[12] If Oregon concluded that it could afford (or could not afford) to finance an enlarged public program of higher education from a study of state taxes only, it would be ignoring about 22 percent of its total state and local support while ignoring about 12 percent of California's and only about one percent of Washington's.

The consideration of local support along with state support assumes greater importance as the percent of the load carried by local government increases. In states (such as Oregon, Wisconsin, New York, Arizona, Illinois, Maryland, Wyoming, and Kansas) where local support is relatively large, it is important to consider local support even if interstate comparisons are not undertaken. If interstate comparisons are to be made it is vital to include local support along with state support.

Supplementary information. Supplementary information, which may sharpen comparison somewhat, is (1) state and local expenditures for higher education as a percent of total state and local tax revenue or expenditures, (2) the ratio of college-aged population to total population, and (3) the cost per student. These supplementary comparisons are not measures of effort. And the students who should be counted in any interstate comparisons involving numbers of students should be fulltime equivalent students, taking either degree-credit or noncredit courses within the boundary of the state.

The question (on page 1) can now be answered: that part of current public and private expenses financed by state and local tax funds should be counted in making interstate comparisons.

## III. RANKINGS AND CONCLUSIONS

Table I compares and ranks the states with respect to relative effort to support higher education in fiscal 1984. 1984 is the latest period in which information is available on local government contributions to the total state and local support of higher education. The first six columns of Table I present appropriations per $1,000 of personal income with rankings of the states. Columns one and two give the amounts and ranking by the Chronicle of Higher Education. Column three presents the amounts, and column four the rankings (determined by the authors) when using state appropriations. The principal difference between the two sets of data is that the Chronicle does not include supplementary appropriations or other changes made later in the fiscal year. These are sometimes approximated or estimated, however. Columns five and six are the same as columns three and four with the addition of local support. The data in columns three through six are collected after the fact and represent actual appropriations. The amounts include state and local appropriations, grants and contracts. They exclude (1) tuition and fees, (2) Federal appropriations, grants and contracts, (3) private gifts, grants and contracts, (4) sales and services of educational activities, auxiliary enterprises and hospitals, and (5) other sources. The seventh column of Table I shows local support as a percent of total (state and local) support.

It would be reassuring if the 1984 state appropriations as a percent of personal income and rankings shown in Columns one and two

TABLE I

EFFORT TO SUPPORT HIGHER EDUCATION, FISCAL 1984

| STATE | Appropriations per $1,000 of Personal Income: Chronicle State Support Amount | Chronicle State Support Rank* | Actual State Support Amount | Actual State Support Rank* | Actual State/Local Support Amount | Actual State/Local Support Rank* | Local Support as Percent of Total Support |
|---|---|---|---|---|---|---|---|
| United States | $10.45 | -- | $ 9.03 | -- | $ 9.83 | -- | 8.15 |
| Alabama | 11.67 | 16 | 11.83 | 13 | 11.98 | 18 | 1.31 |
| Alaska | 20.85 | 1 | 19.34 | 1 | 19.54 | 1 | 1.06 |
| Arizona | 11.09 | 20 | 10.61 | 21 | 13.40 | 11 | 20.78 |
| Arkansas | 9.87 | 28 | 9.88 | 23 | 9.89 | 26 | 0.09 |
| California | 8.83 | 35 | 9.75 | 26 | 11.07 | 22 | 11.90 |
| Colorado | 9.90 | 27 | 8.30 | 35 | 8.69 | 34 | 4.48 |
| Connecticut | 6.15 | 46 | 5.08 | 48 | 5.09 | 48 | 0.16 |
| Delaware | 10.64 | 24 | 9.69 | 27 | 9.69 | 29 | 0.00 |
| Florida | 8.06 | 38 | 7.94 | 38 | 8.03 | 39 | 1.18 |
| Georgia | 10.18 | 26 | 9.61 | 28 | 9.82 | 28 | 2.07 |
| Hawaii | 15.17 | 5 | 13.47 | 7 | 13.48 | 9 | 0.07 |
| Idaho | 10.94 | 22 | 10.94 | 17 | 11.33 | 21 | 3.38 |
| Illinois | 7.73 | 41 | 6.76 | 42 | 8.00 | 40 | 15.41 |
| Indiana | 8.89 | 34 | 9.34 | 30 | 9.39 | 32 | 0.60 |
| Iowa | 11.88 | 14 | 12.65 | 10 | 13.14 | 12 | 3.77 |

TABLE I - EFFORT TO SUPPORT HIGHER EDUCATION, FISCAL 1984 (Continued)

| | Appropriations per $1,000 of Personal Income | | | | | | |
|---|---|---|---|---|---|---|---|
| | Chronicle State Support | | Actual State Support | | Actual State/Local Support | | Local Support as Percent of Total Support |
| STATE | Amount | Rank* | Amount | Rank* | Amount | Rank* | |
| Kansas | $10.88 | 23 | $10.76 | 19 | $12.67 | 15 | 15.08 |
| Kentucky | 11.97 | 13 | 12.67 | 9 | 12.78 | 14 | 0.87 |
| Louisiana | 10.26 | 25 | 11.42 | 16 | 11.46 | 20 | 0.32 |
| Maine | 6.29 | 45 | 6.97 | 41 | 7.02 | 43 | 0.62 |
| Maryland | 8.14 | 37 | 7.82 | 39 | 8.97 | 33 | 12.75 |
| Massachusetts | 5.38 | 48 | 4.99 | 49 | 5.03 | 49 | 0.80 |
| Michigan | 8.54 | 36 | 8.47 | 31 | 9.48 | 30 | 10.67 |
| Minnesota | 13.07 | 10 | 9.44 | 29 | 9.47 | 31 | 0.33 |
| Mississippi | 16.80 | 2 | 14.57 | 3 | 15.71 | 3 | 7.28 |
| Missouri | 6.98 | 44 | 6.67 | 43 | 7.18 | 42 | 7.07 |
| Montana | 12.73 | 12 | 11.52 | 15 | 11.86 | 19 | 2.84 |
| Nebraska | 11.35 | 18 | 11.70 | 14 | 13.12 | 13 | 10.81 |
| Nevada | 7.02 | 43 | 6.41 | 44 | 6.43 | 44 | 0.27 |
| New Hampshire | 2.93 | 50 | 3.63 | 50 | 3.70 | 50 | 1.74 |
| New Jersey | 5.31 | 49 | 5.54 | 47 | 6.26 | 45 | 11.52 |
| New Mexico | 14.83 | 6 | 12.45 | 11 | 13.71 | 8 | 9.20 |
| New York | 9.66 | 30 | 8.46 | 32 | 10.25 | 25 | 17.52 |
| North Carolina | 15.23 | 4 | 13.56 | 5 | 14.15 | 5 | 4.16 |
| North Dakota | 14.12 | 7 | 13.55 | 6 | 13.72 | 7 | 1.26 |
| Ohio | 7.41 | 42 | 7.10 | 40 | 7.61 | 41 | 6.65 |

TABLE I - EFFORT TO SUPPORT HIGHER EDUCATION, FISCAL 1984 (Continued)

| | Appropriations per $1,000 of Personal Income | | | | | | |
|---|---|---|---|---|---|---|---|
| | Chronicle State Support | | Actual State Support | | Actual State/Local Support | | Local Support as Percent of Total Support |
| STATE | Amount | Rank* | Amount | Rank* | Amount | Rank* | |
| Oklahoma | $11.22 | 19 | $ 9.78 | 24 | $ 9.88 | 27 | 0.97 |
| Oregon | 9.61 | 31 | 9.78 | 25 | 12.48 | 16 | 21.63 |
| Pennsylvania | 5.83 | 47 | 5.56 | 46 | 5.95 | 47 | 6.43 |
| Rhode Island | 9.16 | 32 | 8.32 | 34 | 8.33 | 37 | 0.05 |
| South Carolina | 13.82 | 9 | 12.12 | 12 | 12.42 | 17 | 2.47 |
| South Dakota | 7.81 | 40 | 8.29 | 36 | 8.34 | 36 | 0.53 |
| Tennessee | 9.14 | 33 | 8.37 | 33 | 8.47 | 35 | 1.15 |
| Texas | 12.84 | 11 | 12.92 | 8 | 13.48 | 10 | 4.16 |
| Utah | 14.10 | 8 | 14.17 | 4 | 14.22 | 4 | 0.40 |
| Vermont | 7.92 | 39 | 6.17 | 45 | 6.25 | 46 | 1.17 |
| Virginia | 9.84 | 29 | 8.00 | 37 | 8.12 | 38 | 1.50 |
| Washington | 11.01 | 21 | 10.74 | 20 | 10.85 | 23 | 1.02 |
| West Virginia | 11.41 | 17 | 10.54 | 22 | 10.60 | 24 | 0.56 |
| Wisconsin | 11.69 | 15 | 10.94 | 18 | 13.81 | 6 | 20.78 |
| Wyoming | 16.64 | 3 | 16.82 | 2 | 19.15 | 2 | 12.15 |

*Computations carried sufficient number of places to give exact ranking.

Sources: The Chronicle of Higher Education, October 26, 1983.
U.S. Department of Commerce, Survey of Current Business, August 1985.
U.S. Department of Education, Center for Statistics, "State and Local Revenues of Public and Private Institutions of Higher Education." (Unpublished data tranmitted to authors January 23, 1986). Fiscal 1984 appropriations are divided by personal income figures from calendar 1983.

corresponded with the state information in Columns three and four of Table I. Unfortunately, they do not. Generally, the Chronicle shows support of IHE per $1,000 of personal income to be greater than the amounts obtained by the authors. The difference results from the "timeliness" of the Chambers Report where the emphasis is on speed of dissemination, and where some of the sums are "approximated or estimated because the exact amounts disbursed cannot be known until after the end of the fiscal period."[13] Thirteen states move up or down at least five positions when going from column two to column four in Table I. Louisiana and California move up nine positions and Minnesota falls nineteen positions. Unfortunately recent subsequent changes have been substantial unanticipated reductions in appropriations in some states.

The analysis contained in this paper suggest that column five of Table I provides the best single measure of a state's support of higher education for comparative purposes. For example, and with respect to the various elements discussed in this paper, this measure (1) omits capital outlay, (2) covers a single year (fiscal 1984), (3) excludes nontax income, (4) includes public and private institutions, (5) includes state and local government support, and (6) uses personal income of the prior calendar year as the base for comparison.

In fiscal 1984 Alaska led the nation in the amount of current fund revenues of state and local governments devoted to the support of public and private IHE in relation to personal income at $19.54 out of each $1,000 of state personal income. Wyoming was second at $19.15. Alaska and Wyoming were the only states in the union whose effort to support IHE approached two percent of state personal income. The relative effort ranges from Alaska's $19.54 down to $3.70 per $1,000 of personal

income in New Hampshire. Mississippi, with the lowest per capita personal income among the states, ranked third in effort at $15.71 per $1,000 of personal income.

While the ranking of many states is little affected, states that provide greater than average local government support generally climb in the ranking when local government's effort is added to that of state government's. Since local governments in Arizona, Oregon, and Wisconsin provide over 20 percent of state and local government funds for IHE, one would expect these states to increase in rank substantially when local funds are included. Table I shows that they increase from 21st to 11th, 25th to 16th and 18th to 6th, respectively. Other changes occur in the ranking when local funds are included. New York, where local government funds provide over 17 percent of state-local funds, moves from 32nd to 25th place. Maryland gained six positions while Alabama, Kentucky and South Carolina each fell five positions. While seven states gain at least four positions when local appropriations are included, six states move down at least four positions, and eleven states do not change rank.

One final observation to place the notion of simple ranking of the states in perspective: The current fund revenues for public and private IHE from state and local governments averaged $9.83 per $1,000 of personal income in 1984. The effort ranged from $19.54 (first) in the case of Alaska down to $3.70 (fiftieth) for New Hampshire. But the mere ranking of the states from one to fifty does not provide a scale which can give a measure of the proportionate or relative position of the states. The ranking can result in distortion which is not readily apparent.

For example, in ranking states' efforts to support IHE in 1984, the state of Arkansas ranked 26th at $9.89 per $1,000 of personal income. If a two percent zone is constructed (one percent on either side of Arkansas), New York, which ranked 25th, is the first state outside the zone on the higher effort side. Delaware, which ranked 29th, is the first state outside the zone on the lower effort side. New York is one position up the scale from Arkansas and Delaware is three positions down the scale; yet these two states represent the two closest states that are not within one percent above or one percent below the state of Iowa. To have meaning, the degree of difference among the states should be understood by those using mere ranking.

Conclusion. Table I shows that it does make a difference in the ranking when local government revenue for IHE is included along with state government revenue.

An advantage of the Chambers Report, as analyzed by The Chronicle of Higher Education, is that the rankings are current. The big disadvantage is that the Chambers Reports do not include local government revenues for IHE and, therefore, omit varying amounts of effort to support IHE when making interstate comparisons. Thus, while current, the rankings published by The Chronicle of Higher Education are misleading and can cause state officials, legislators, school administrators, and others to draw wrong conclusions that could be detrimental to the social welfare of the citizens of the state. Nineteen states move up or down at least five positions when going from column two to column six of Table I. Oregon and California move up fifteen and thirteen positions respectively while Minnesota moves down twenty-one positions.

## ENDNOTES

1. Advisory Commission on Intergovernmental Relations, Significant Features of Fiscal Federalism 1984 Edition (Washington: Government Printing Office, March 1985), pp. 148-51.

2. Ibid., pp. 69, 71.

3. The Chronicle of Higher Education, October 26, 1983, p. 13; October 31, 1984, p. 1, and October 30, 1985, p. 1.

4. M. M. Chambers and Edward R. Hines, Appropriations of State Tax Funds for Operating Expenses of Higher Education 1985-1986 (Washington: National Association of State Universities and Land Grant Colleges, undated), pp. 1-7.

5. M. M. Chambers and Edward R. Hines, Appropriations of State Tax Funds for Operating Expenses of Higher Education 1980-1981 (Washington: National Association of State Universities and Land Grand Colleges, October 1980), p. 2.

6. U.S. Department of Commerce, Survey of Current Business (Washington: Government Printing Office, August, 1985), p. 18.

7. The Chronicle of Higher Education, October 30, 1985, p. 13.

8. William Anderson, Myles S. Wallace, and John T. Warner, "Government Spending and Taxation: What Causes What?" Southern Economic Journal, Vol. 52, No. 3, (January 1986), p. 635.

9. U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics 1983-1984 (Washington: Government Printing Office, December 1983), pp. 86, 108-09.

10. U.S. Department of Education, National Center for Educational Statistics, Financial Statistics of Institutions of Higher Education Fiscal Year 1979 (Washington: Government Printing Office, May 1981) pp. 12-13, 40-43. This document has not been published since May 1981 and the name of the National Center for Educational Statistics was changed to Center for Statistics in 1985.

11. U.S. Department of Education, Center for Statistics (Unpublished data on State and Local Revenues of Public and Private Institutions of Higher Education, 1983-84, transmitted to the authors January 23, 1986), and National Center for Educational Statistics, Financial Statistics of Institutions of Higher Education Fiscal Year 1978 (Washington: Government Printing Office, August 1980), p. 12.

12. U.S. Department of Education, Center for Statistics (Unpublished data on State and Local Revenues of Public and Private Institutions of Higher Education, 1983-84, transmitted to the authors January 23, 1986).

13. M. M. Chambers, Appropriations of State Tax Funds for Operating Expenses of Higher Education 1980-1981, p. 4. The October 14, 1980 issue of The Chronicle of Higher Education, p. 6., contains a special article, "M. M. Chambers: The Man Behind the Numbers, "in which he gives explicit warnings in the use of his data. The Chambers Report for 1985-1986, op. cit., p. 2 announces the death of Merritt Madison Chambers on November 15, 1985 which probably accounts for the delay in the distribution of this issue and the absence of a publication date.